

thin film transistor,

said thin film transistor comprising:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein said semiconductor layer comprises amorphous silicon.

2. (Amended) The device of claim 1 wherein said thin film transistor is an inverted-staggered thin-film transistor.

3. (Amended) The device of claim 1 wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

5. (Twice Amended) A semiconductor device comprising:

a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first resinous substrate, and a liquid crystal layer therebetween;

a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface; and

a thin-film transistor provided on said planarized surface of said resinous layer;

an interlayer insulating layer comprising a resinous material provided over said thin-film transistor; and

at least one pixel electrode provided on said interlayer insulating layer,

said thin film transistor comprising:

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a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein said semiconductor layer comprises silicon and is obtained by crystallizing amorphous silicon.

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6. (Amended) The device of claim 5 wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

10. 11. (Three Times Amended) A semiconductor device comprising:

a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first resinous substrate, and a liquid crystal layer therebetween;

a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface;

a thin film transistor provided on said planarized surface of said resinous layer; and

an interlayer insulating layer comprising resinous material provided over said thin film transistor,

said thin film transistor comprising:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein said semiconductor layer comprises microcrystalline silicon.

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12. (Three Times Amended) A semiconductor device comprising:
a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first resinous substrate, and a ferroelectric liquid crystal layer therebetween;

a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface; and

a thin film transistor provided on said planarized surface of said resinous layer; and

an interlayer insulating layer comprising resinous material provided over said thin film transistor,

said thin film transistor comprising:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein said semiconductor layer comprises silicon and is obtained by crystallizing amorphous silicon.

11. 13. (Amended) The device of claim 11 wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

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(Amended) The device of claim 12 wherein said first resinous substrate

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comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

16. 18. (Three Times Amended) A semiconductor device comprising:

a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first resinous substrate, and a ferroelectric liquid crystal layer therebetween;

a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface; and

a thin film transistor provided on said planarized surface of said resinous layer; and

an interlayer insulating layer comprising resinous material provided over said thin film transistor,

said thin film transistor comprising:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein said channel formation region comprises amorphous silicon.

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18. 20. (Amended) The device of claim 18 wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

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19. 21. (Amended) The device of claim 18 wherein said resinous layer comprises a

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material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid.

21. 23. (Three Times Amended) A semiconductor device comprising:
a resinous substrate having an uneven surface, a substrate opposed to said resinous substrate, and a ferroelectric liquid crystal layer therebetween;
a resinous layer provided on said uneven surface of said resinous substrate and having a planarized surface; and
a thin film transistor provided on said planarized surface of said resinous layer;
an interlayer insulating layer comprising a resinous material provided over said thin-film transistor;
at least one pixel electrode provided on said interlayer insulating layer, said thin film transistor comprising:
a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and
a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,
wherein said semiconductor layer comprises amorphous silicon.

23. 23. (Amended) The device of claim *23* wherein said resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

21. 28. (Three Times Amended) A semiconductor device comprising:
a first resinous substrate having an uneven surface, a second resinous substrate

opposed to said first substrate, and a ferroelectric liquid crystal layer therebetween;

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a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface; and

a thin-film transistor provided on said planarized surface of said resinous layer;

an interlayer insulating layer comprising resinous material provided over said thin film transistor,

wherein said thin-film transistor comprises:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, and

wherein said channel formation region comprises microcrystalline silicon.

29. 30. (Amended) The device of claim *28* wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

30. 31. (Amended) The device of claim *28* wherein said resinous layer comprises a material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid.

31. *3β.* (Three Times Amended) A semiconductor device comprising:

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a resinous substrate having an uneven surface, a substrate opposed to said resinous substrate, and a ferroelectric liquid crystal layer therebetween;

a resinous layer provided on said uneven surface of said resinous substrate and

having a planarized surface; and

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a thin-film transistor provided on said planarized surface of said resinous layer;
an interlayer insulating layer comprising a resinous material provided over said thin-film transistor; and

at least one pixel electrode provided on said interlayer insulating layer,
said thin-film transistor comprising:
a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and
a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,
wherein said semiconductor layer comprises microcrystalline silicon.

33. 35. (Amended) The device of claim 33 wherein said resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide.

34. 36. (Amended) The device of claim 33 wherein said resinous layer comprises a material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid.

Please add new claims 38-46 as follows.

36. --38. (New) A semiconductor device comprising:

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a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first resinous substrate, and a liquid crystal layer therebetween, wherein

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said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide;

a resinous layer provided on said uneven surface of said first resinous substrate and having a planarized surface;

a thin film transistor provided on said planarized surface of said resinous layer; and

an interlayer insulating layer comprising resinous material provided over said thin film transistor,

wherein said thin film transistor comprises:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween.

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38. (New) The device of claim 38 wherein said resinous layer comprises a material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid, and 2-ethylhexyl ester of acrylic acid.

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40. (New) A semiconductor device comprising:

a first resinous substrate having an uneven surface, a second resinous substrate opposed to said first substrate, and a ferroelectric liquid crystal layer therebetween, wherein said first resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide;

a resinous layer provided on said uneven surface of said first resinous substrate

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and having a planarized surface; and

 a thin-film transistor provided on said planarized surface of said resinous layer;
 an interlayer insulating layer comprising resinous material provided over said thin film transistor,

 said thin-film transistor comprising:

 a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

 a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween.

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41. (New) The device of claim 40 wherein said thin film transistor is an inverted-staggered thin-film transistor.

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42. (New) The device of claim 40 wherein said resinous layer comprises a material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid.

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43. (New) A semiconductor device comprising:

 a resinous substrate having an uneven surface, a substrate opposed to said resinous substrate, and a ferroelectric liquid crystal layer therebetween, wherein said resinous substrate comprises a material selected from the group consisting of polyethylene terephthalate, polyethylene naphthalate, polyethylene sulfite and polyimide;

 a resinous layer provided on said uneven surface of said resinous substrate and having a planarized surface; and

 a thin-film transistor provided on said planarized surface of said resinous layer;

an interlayer insulating layer comprising a resinous material provided over said thin-film transistor; and

at least one pixel electrode provided on said interlayer insulating layer,
wherein said thin-film transistor comprises:

a semiconductor layer comprising a source region, a drain region, and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween.

44. (New) The device of claim *43* wherein said thin film transistor is an inverted-staggered thin-film transistor.

45. (New) The device of claim *43* wherein said resinous layer comprises a material selected from the group consisting of methyl ester of acrylic acid, ethyl ester of acrylic acid, butyl ester of acrylic acid and 2-ethylhexyl ester of acrylic acid.

46. (New) The device of claim *43* wherein said pixel electrode comprises an indium tin oxide.--

REMARKS

Applicant would like to thank Examiner Guerrero for the very thorough consideration given the subject application. The Office Action of **June 18, 2001**, has been received and its contents carefully noted. Applicant respectfully submits that this response is timely filed. Claims 1-8 and 11-37 were pending in the present application prior to the aforementioned amendment. By the above Amendment, claims 1-3, 5, 6, 1-